Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	§	
	§	
Section 68.4(a) of the	§	**RM No. 8658**
Commission's Rules, Hearing Aid-	§	
Compatible Telephones	§	
	§	

COMMENTS OF
SOUTHWESTERN BELL MOBILE SYSTEMS, INC.

Southwestern Bell Mobile Systems, Inc. ("SBMS") files these comments in response to the Federal Communications Commission's ("Commission") Petition For Rule Making[1] in this proceeding:

I. BACKGROUND

HEAR-IT NOW[2] requests that the Commission initiate a rulemaking proceeding to amend Section 68.4(a) of the Commission's Rules to specify that PCS devices capable of voice transmission and reception must be hearing aid-compatible. In support of its request, HEAR-IT NOW cites the results of European tests that allegedly demonstrate the creation of interference to hearing aid devices by the operation of Global System for Mobile Communications ("GSM") devices within close proximity of hearing aids.

SBMS is a wholly-owned subsidiary of Southwestern Bell Wireless Holdings, Inc. (which

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[1] **In the Matter of Section 68.4 of the Commission's Rules, Hearing Aid-Compatible Telephones**, Petition For Rule Making (submitted June 5, 1995 by HEAR-IT NOW). ("PRM").

[2] HEAR-IT NOW is a coalition of groups allegedly formed to promote equal access by hearing aid wearers to advanced communications services.

is a wholly-owned subsidiary of SBC Communications, Inc.). SBMS operates as a cellular licensee in various MSAs and RSAs, a Private Land Mobile Radio Services licensee in LMS services and is a paging licensee. SBMS expects to be an emerging technology provider in the PCS market. As such, SBMS opposes the initiation of a rulemaking proceeding to amend Section 68.4(a) as HEAR-IT NOW requests.

II. THE COMMISSION SHOULD REFRAIN FROM INITIATING A RULEMAKING PROCEEDING TO AMEND SECTION 68.4 (a) AS PREMATURE

HEAR-IT NOW's argument in favor of opening rulemaking proceedings in this case appears to be based solely on the results of four or five European tests that reviewed the effects that GSM devices have on various hearing aid devices. Due to the limited scope of the European tests and other factors, the opening of rulemaking proceedings geared to requiring hearing aid-compatibility of PCS devices is highly premature. First and foremost, the European tests were limited to the review of GSM technology as it is used in Europe, with frequencies, power levels, and other technical parameters that may not parallel those used in the United States.[3] Currently, GSM technology is not used by any of the greater than twenty million people utilizing cellular phones in the United States. Therefore, the existence of a hearing aid interference problem due to GSM technology has not been nor can be determined in the United States. In that regard, there is

[3]It is not clear that all carriers will even use GSM technology. SBMS, for example, currently uses the Time Division Multiple Access ("TDMA") technology in conjunction with its provision of cellular services. SBMS, as an emerging PCS provider, anticipates that it will continue to use TDMA technology in conjunction with its provision of PCS. Another technology that will be available to PCS providers is Call Division Multiple Access ("CDMA").

apparently a question as to whether there even is a problem in some European countries where GSM is currently used.[4] In fact, SBMS understands that there are an estimated 10 million GSM

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[4]1. Ole Lauridsen, Professor, Msc. E.E., Corporate Director R & D, Tele Danmark Research, allegedly wrote the following in a letter to Commission Chairman, Reed Hundt, in a March 26, 1995 correspondence:

> *In my little country of Denmark, over 250,000 people (4.8% of the population) are currently using GSM telephones on two competitive, nationwide networks and not one single complaint has been received by the Danish Telecom inspector from hearing aid users, car owners, hospitals, airports, medical equipment suppliers, consumer protection agencies, etc.*

2. DeTeMobil, the 100% government-owned cellular service provider serving 1.1 million customers in Bonn, Germany, notes:

> *To date we have received no reports of interference to hearing aids from our GSM phones.*

3. Orange, the GSM cellular service provider serving 200,000 customers in Bristol, England, notes:

> *We have subscribers who are hearing aid wearers and are quite pleased with their GSM phones.*

4. Mobile Telephone Services, Telecom Finland, is the GSM cellular service provider serving 130,000 customers in Helsinki, Finland, notes:

> *We have received less than 20 reports of interference from our GSM phones. Almost all the reports of interference were received during the first year of commercial operation.*

5. Telenor Mobile, the GSM cellular service provider serving 100,000 customers in Oslo, Norway, notes:

> *We have received no specific reports of interference to hearing aids from our GSM phones.*

6. Mannesmann Mobilefunk GmbH, the GSM cellular service provider serving 1 million customers in Dusseldorf, Germany, notes:

> *The reports of interference to hearing aids caused by GSM phones have been extremely rare.*

phones in use world-wide, however, SBMS is unaware of any outbreak of hearing aid problems associated with that use.

Second, the experts in the field, i.e., the mobile phone service providers and hearing aid manufacturers, are best suited to initially determine whether any hearing aid-compatibility problems exist and, if so, how best to resolve them. United States and European experts appear to agree that, if existent, hearing aid-incompatibility is not a public health or safety issue, but rather an issue of interference management. To that end, the North American wireless community is committed to support industry and independent programs to explore electromagnetic compatibility issues.

Evidence of that commitment is the establishment of the Center for the Study of Electromagnetic Compatibility at the University of Oklahoma ("Center") in early 1994 with financial contributions from the wireless industry. The central purpose of the Center is to research inter-industry electromagnetic compatibility issues, including the compatibility between hearing aids and wireless telecommunications.[5] The Center's research will be greatly enhanced by its

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[5]The Center serves six major functions:

1. Provide testing to assure that electronic devices are properly designed and installed to resist unintended interaction with external electromagnetic sources;
2. Host forums to address electromagnetic compatibility issues;
3. Perform research to evaluate and resolve electromagnetic compatibility issues;
4. Educate consumers and users about electromagnetic compatibility considerations;
5. Coordinate the activities of industries and organizations involved in setting electromagnetic compatibility standards; and
6. Assist societies and trade organizations to address inter-industry electromagnetic compatibility issues.

access to a multi-million dollar electromagnetic testing facility. The wireless industry has requested that the Center undertake a hearing aid testing program with the involvement and cooperation of manufacturers of hearing aids for the North American market. In fact, SBMS understands that, on Monday, July 10, 1995, the Cellular Telecommunications Industry Association announced that United States wireless industry representatives and hearing aid manufacturers were to meet in July, 1995 to develop an outline for research concerning hearing aid and digital cellular phone interference issues, with a desired completion date of within six months.[6] The Center and hearing aid manufacturers should be given a reasonable opportunity to fully explore the existence of compatibility problems and all possible solutions before the Commission even considers initiating rulemaking proceedings.

Finally, given the lack of information and specificity concerning whether there even is a hearing aid compatibility problem in the United States, the issue certainly is not ripe enough to assess whether the exemptions for public mobile and private radio services under the Hearing Aid Compatibility Act of 1988 should be revoked. Without a clear identification of any compatibility problems and ample opportunity to study and analyze any such problems and their potential solutions, a thorough assessment of the specific public interests involved, any adverse effects,

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[6]This announcement occurred in conjunction with the July 10, 1995 meeting of the HEARING AID DESIGN GROUP, which is composed of multiple hearing aid manufacturers and wireless industry manufacturers and service providers. The majority of those representatives also attended a June 6, 1995 meeting in Dallas, Texas, which was a Joint Review Committee Planning Forum for the INTERACTION BETWEEN WIRELESS PHONES AND HEARING AIDS. Exhibit A, attached hereto, is a listing of the representives that attended at least one of the meetings, twenty-two of whom attended both. Each of the meetings demonstrate the tremendous effort and commitment the industry (i.e., both the hearing aid and wireless industries) experts are determined to devote to the compatibility issues, if allowed the opportunity.

technical requirements and/or costs, is simply not possible.

In conclusion, the initiation of rulemaking proceedings at this point is extremely premature as the existence of a problem in the United States is totally unclear. Further, the wireless community and hearing aid manufacturers, as well as the Center, should have an adequate opportunity to fully examine all the issues associated with hearing aid devices and digital equipment.

III. MULTIPLE ELECTRICAL DEVICES HAVE SIMILAR EFFECTS UPON HEARING AID DEVICES

In stride with technological advances, the development and use of new digital electronic equipment and radio frequency-emitting equipment on a world-wide basis will inevitably result in an increased potential for interference or interaction with hearing aids. Currently, hearing aid interference in the United States is predominantly caused by non-radio electronic equipment, such as florescent lights, microwaves and computers.[7] Furthermore, most reported interference with the performance of electronic equipment in general is attributed to non-radio equipment, such as private high power mobile radios similar to those used by police, fire and emergency medical personnel, or amateur radios. There is also speculation that it is the "pulse" technology of the electronic devices that is the main cause of the hearing aid interference. All digital devices utilize the "pulse" technology.

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[7]In fact, European studies have revealed that hearing aid interference caused by florescent lights is more significant than the interference allegedly caused by GSM devices.

Obviously, there are numerous electronic devices that either cause or could potentially cause interference with hearing aid devices. Some, in fact, will cause hearing impaired persons more significant interference than that allegedly caused by GSM devices. Clearly, the Commission and all other relevant governmental agencies should refrain from initiating additional and widespread regulation of the multitudes of service providers and manufacturers that provide such electronic devices to the public. Additionally, there is no fair and equitable reason to single-out any specific electronic device and to, therefore, regulate the associated service providers and manufacturers.

Further, if it is true that "pulse" technology is the cause of hearing aid interference, then all digital devices, whether used in conjunction with GSM technology or otherwise, could cause hearing aid interference and should, following HEAR-IT NOW's reasoning, be required to be hearing aid-compatible. The Commission would then be required to undertake an overwhelming initiation of multiple rulemaking proceedings to require all digital devices to be made hearing aid-compatible. Accordingly, the Commission should refuse to initiate rulemaking proceedings to amend its rules to require that PCS devices capable of voice transmission and reception be hearing aid-compatible.

IV. HEARING AID DEVICES SHOULD BE PROPERLY SHIELDED TO PREVENT INTERFERENCE FROM ELECTRONIC DEVICES

Assuming that an incompatibility problem does exist, in light of the potentially large number of electronic, digital devices that may cause interference with hearing aid devices, the most

financially and technically feasible solution would arguably be the incorporation of an increased level of electromagnetic immunity, or "shielding", in the hearing aid devices. If the "interfering" devices are required to be retrofitted or re-designed, the costs to society in terms of prices and lost use of the devices, such as florescent lights, microwaves, computers, and many other items of digital equipment, would likely be astronomical, far outweighing any additional costs incurred due to the modification of hearing aid devices. Also, it may be that many current hearing aid devices in the United States already have a level of electromagnetic immunity that would prevent the subject interference, thus eliminating any need to modify them. SBMS understands that available hearing aid treatments geared to promoting "shielding" include, but may not be limited to, coating the hearing aid case with a conductive material or metal-impregnated case and/or the inclusion of shunt capacitors in the hearing aid circuit.

As is discussed above, these and other possible hearing aid-solutions to any incompatibility problems will certainly be explored by the Center and hearing aid manufacturers.

V. Conclusion.

For the reasons stated herein, the Commission should deny HEAR-IT NOW's request that the Commission initiate rulemaking proceedings to amend Section 68.4(a) of the Commission's Rules to specify that PCS devices capable of voice transmission and reception must be hearing aid-compatible.

Respectfully submitted,

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